

# OASIS Fibre Superabsorbent

## Product Data Sheet

### Description

A cross-linked acrylate copolymer, partially neutralised to the sodium salt, in fibre form.

### Physical Form

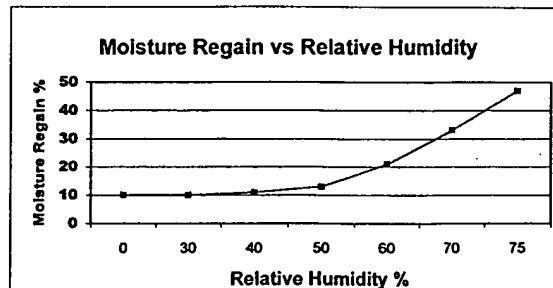
White, odourless staple to heat and light and is non-flammable.

### Typical Properties

	Type 101	Type 102
<b>Saline Absorbency (g/g) 0.9%</b>		
Freeswell (15 seconds)	42	42
Freeswell (20 minutes)	45	45
Retention (0.5psi)	35	35
Absorption Under Load (0.3psi)	21	21
<b>Distilled Water Absorbency (g/g)</b>		
Freeswell (20 minutes)	85	85
Retention (0.5psi)	65	65
Absorption Under Load (0.3psi)	45	45
<b>0.3% Saline (meat extract)</b>		
Freeswell (20 minutes)	50	50
Retention (0.5psi)	40	40
Absorption Under Load (0.3psi)	35	35
<b>Defibrillated Sheeps Blood</b>		
Freeswell (20 minutes)	34	34
Retention (0.5psi)	27	27
Absorption Under Load (0.3psi)	20	20
Moisture (%)	15	15
PH (saline extract)	5.8	5.8
Staple Length (mm)	6 & 12	52
Dtex	10	10

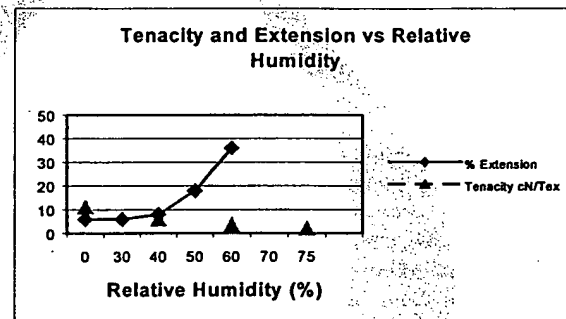
10 Dtex  $\approx$  30  $\mu$ m (assume density of polymer is 1.5 g/cm<sup>3</sup>)

OASIS Type 101 is designed for air-laying and Type 102 is a more flexible fibre suitable for carding processes. All OASIS grades demonstrates high wet integrity.



### Additional Fibre Features

The equilibrium moisture content of OASIS fibre superabsorbent is dependent upon relative humidity.



- The tensile properties of the fibre are strongly dependent upon the moisture content due to the plasticisation effect of water.
- As with SAPs the absorbency capacity of OASIS fibre superabsorbent decreases with increasing concentration of electrolytes in the absorbing fluid.
- The absorbency capacity is unaffected by water temperature.
- OASIS is supplied at pH 5.8, equivalent to that of skin. The surface of the skin is covered by a film known as the "acid mantle", which is formed by the sweat and sebaceous glands through secretion. The acid mantle normally has a pH in the range of 4.5 – 6.5 depending on the site of the body tested, and



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**EXHIBIT A**

protection is afforded to the skin by chemical buffering, detoxifying and bacteriostatic functions. Severe changes in the pH of the acid mantle may give rise to unwelcome bacterial invasion, sensitisation and various forms of skin dermatitis.

## **Health and Safety**

Detailed information on handling and any precautions to be observed in the use of the product described in this leaflet can be found in the relevant Health and Safety Information Sheet.

## **Trade Mark**

OASIS is a Trade Mark of Technical Absorbents Ltd.

## **Warranty**

Whilst Technical Absorbents Ltd endeavours to ensure that all statements and recommendations made relating to the properties and use of OASIS fibres are correct, they cannot be guaranteed to be wholly accurate or complete.

The information contained in this document is not intended to be exhaustive or a substitute for the customers own product testing, evaluations or safety procedures. Data concerning the performance of end products is indicative only of what can be achieved. Actual performance depends on yarn or fabric construction, subsequent processing and the influence of other materials in composite structures. It is therefore the responsibility of downstream producers to ensure that their product complies with the required standards.

The information contained in this document does not imply freedom from any patent owned by Technical Absorbents Ltd or others.

## Camelot Superabsorbents

# An absorbing product shows unlimited potential

Dr. Ervin Dan picks up a pinch of quarter-inch fibres and drops them into a glass of water. Within 15 seconds, the water has disappeared to become a gelatin-like solid.

It's a convincing demonstration of the efficacy of a unique superabsorbent fibre, the product of Camelot Superabsorbents Ltd. Dr. Dan is vice-president and director of technology in the Calgary company.

Superabsorbents are relatively new materials made from polymers modified to give them the ability to absorb and retain large amounts of liquid.

"One pound of this fibre can absorb 400 pounds of water," says Dr. Dan. "It is a very, very efficient absorbing system."

The basis of the fibre is a blend of a polymer and additives which

form a syrup with large molecules. This stage of technology development is being carried out at the Alberta Research Council. □



Superabsorbent fibres

## George B. Miller appointed to head ARC

George B. Miller, former vice-president of Research and Technology Development for NOVA Corporation and former president of Nova Husky Research Corporation, has been appointed managing director and chief executive officer of ARC.

Dr. Miller's appointment is for one year while a search is under way to fill the role of president.

Dr. Miller served on ARC's board of directors from 1986 to 1992, was on the board's executive committee, and was chairman of the Electronics Test Centre management committee.

He recently retired as chairman of the board of TWT Technologies Inc. and from directorships with the Canadian Polar Commission and the Research Advisory Board of PETRONAS, the Malaysian national oil company.

Dr. Miller is an honorary member of APEGGA (Association of Professional Engineers, Geologists and Geophysicists of Alberta) and is an endowment fund trustee of the Calgary Women's Emergency Shelter Association.

During his 36-year career in the petroleum and electronics industries, He received three patents: for his work in high resolution downhole pressure measurement, surfactant systems for enhanced oil recovery and gas turbine engine design. He retired from NOVA in 1992. □



George B. Miller

ARC operates a 100-gallon reactor at its pilot facility in Devon, and is the first to make the polymer in Canada. Project engineer Gerard Morrison points out that process

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EXHIBIT B

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improvements mean cost savings for mass production.

"ARC has helped us reduce the cost of making the raw materials," says Dr. Dan. "What we learn at ARC, we transfer to an 8,000-gallon facility in Houston." But, not for long. The company has leased the former Magnesium Company of Canada property near High River, Alberta, and is installing a \$5 million production facility this year. When demand is sufficient to produce the syrup in Alberta, a polymerization facility will be constructed on the same site.

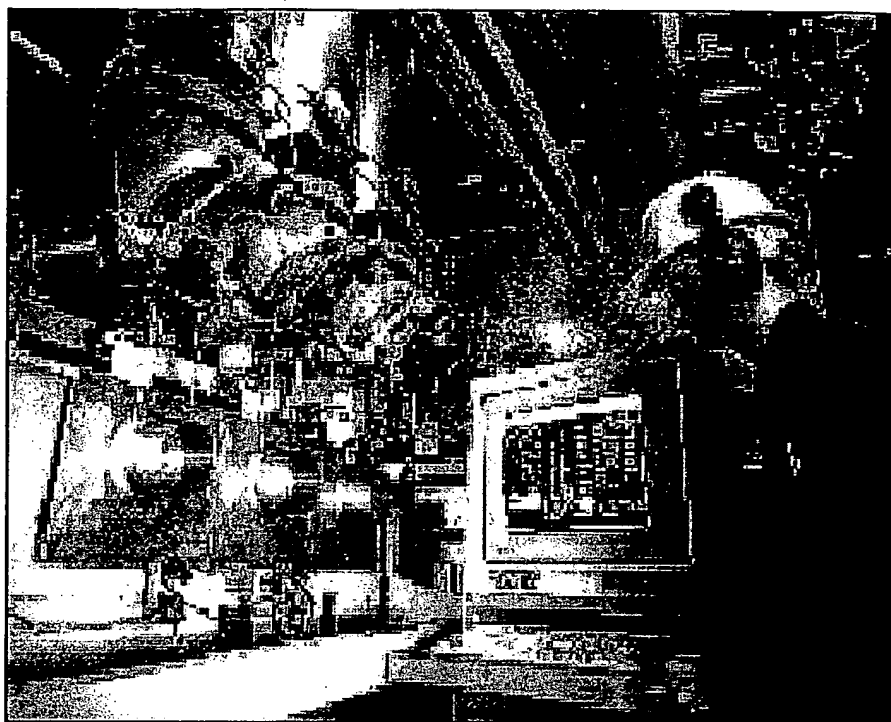
At Camelot's pilot plant and laboratory in Calgary, the syrup is spun into the fibre by a drying process, then "cured" to make the molecules larger. Curing changes the material from water soluble to water absorbent.

Camelot Superabsorbents was founded in 1992, acquiring the Fiberdri™ technology from ARCO Chemical Company. Armand Tratechaud, executive vice president and director of finance and administration, says the start-up company was attracted to Alberta from

### **India agreements signed**

Two international agreements between ARC and India's state-owned petroleum companies could mark the beginning of a thriving heavy oil business in India and mean millions of dollars in export sales opportunities for Alberta companies.

The memoranda of understanding were signed in New Delhi during the prime minister's Team Canada trade mission in January. The development of a strategic plan to set priorities for investment in India's heavy oil reserves is the first objective under the terms of the MOUs. Opportunities for technology exchanges between India and Alberta and for investment by Alberta companies in India's heavy oil sector will follow. □



*Camelot fibre development plant operator Curtis Buxton keeps an eye on the critical stage where the fibre is threaded onto feed wheels for curing.*

Massachusetts for a number of reasons, principally the infrastructure the province offered – "that includes ARC and the educational system. Many of our staff of 30 are Northern or Southern Alberta Institute of Technology graduates. It is also advantageous to manufacture in the dry climate we found here."

Camelot's aim is to build a new specialty polymer company to manufacture and market innovative polymer systems for emerging market needs. Now in the advanced stages of commercial development of Fiberdri™, Camelot's immediate objective is to produce eight million pounds of fibre by the end of this year. Clients are U.S. and European companies supplying such niche markets as hospitals.

Fiberdri™ is the initial product from Camelot. A fibre is a more desirable form of superabsorbent as it entangles naturally with other fibres in absorbent pads and offers a number of handling and processing advantages when compared to the powder form now in use. Fiberdri™ also offers product designers opportunities for new products and overall

product improvement.

Camelot's target markets are products for adult incontinence and feminine hygiene, but there are other uses for superabsorbents: bed lining for hospital sheets, autopsy pads, casket liners and, of course, baby diapers. It's a huge market. In North America, Europe and Japan, the demand for superabsorbents is close to a billion pounds a year, and estimated to be increasing by 15 per cent annually.

Camelot expects to grow right along with this fast-paced market and is confident its production will reach 100 million pounds in the next four years.

The company also has an eye on potential industrial uses such as filters to filter water from aviation fuels and wrapping fibre optic and copper communication cables which need moisture protection.

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